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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|----------------------|------------------|
| 09/593,532 | 06/14/2000 | Steven G. DeNies | 11983.0046 | 8087 |
| 8791 | 7590 | 02/18/2005 | EXAMINER | |
| BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD SEVENTH FLOOR LOS ANGELES, CA 90025-1030 | | | BRINEY III, WALTER F | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2644 | |

DATE MAILED: 02/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/593,532

Applicant(s)

DENIES ET AL.

Examiner

Walter F Briney III

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-45 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

ELECTION I

This application contains claims directed to the following patentably distinct species of the claimed invention:

- I. **Claims 1-6, 38, and 44, a method for providing an indication signal by matching active conductors to primary interface class information, depicted in figure 1.**
- II. **Claims 7-36, 39, 40, and 45, a method for providing an indication signal by grouping active conductors and comparing the groups to primary interface class information, depicted in figure 2.**

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, **claims 37 and 41-43** are generic.

See the proceeding section entitled ELECTION II for more information on filing a proper response.

RESTRICTION I

In the event that group II from above is selected, restriction to one of the following inventions is required under 35 U.S.C. 121:

- A. **Claims 8-22, drawn to calculating correlation coefficients to measure either the periodicity of an incoming signal or the degree of conformity between two separate signals, classified in class 324, subclass 76.33.**
- B. **Claims 24-25, drawn to monitoring a pair of conductors to determine its protocol using fourth moment measurements, classified in class 379, subclass 24.**

C. Claims 26-36, drawn to minimizing model estimation error, classified in class 379, subclass 1.04.

Note, **claims 7, 37, 39-43 and 45** have been excluded from the above listing; they are considered generic linking claims between each of inventions A through C. **Claim 23** is merely a general extension of the combination presented in claim 7, and is considered generic to each of inventions A through C.

The inventions are distinct, each from the other because of the following reasons:

Inventions A through C are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. Because only one-way distinctness is required, only two of the three inventions need separate utility. See MPEP § 806.05(d).

In the instant case, invention A has separate utility such as tone detection and echo cancellation. In tone detection, e.g. telephonic DTMF decoders, autocorrelation values can quickly verify the periodicity of an incoming signal, a distinguishing feature of tones versus voice. Echo cancellers often derive cross-correlation values to verify the degree of echo cancellation achieved.

In the instant case, invention C has separate utility such as subscriber loop topology determination, which can be used to determine if a loop can support xDSL. Prior art methods determine the input impedance of a subscriber loop. The impedance is then used as a reference signal for an LMS-type model estimator.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

ELECTION II

In the event that group II and invention A from above are selected, a selection between the claims directed to the following patentably distinct species of the claimed invention must be made:

- a. Claims 8-13, a method for grouping signals using autocorrelation measurements, depicted in figures 1 and 2.**
- b. Claims 14-22, a method for grouping signals using cross-correlation measurements, depicted in figures 1 and 2.**

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, **claims 7, 23, 37, 39-43, and 45** are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F Briney III whose telephone number is 703-305-0347. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 703-305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Art Unit: 2644

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WFB
2/16/05

A handwritten signature in black ink, appearing to read 'Sinh Tran', with a stylized flourish at the end.

SINH TRAN
SUPERVISORY PATENT EXAMINER